

# Video playback ABR using WebRTC statistics data

Since builds [WCS5.2.1663](#) and [SFU SDK2.0.231](#) player may switch between available ABR qualities automatically when playback channel state is changing. Automatic quality switching is based on the following WebRTC playback statistics data.

- nackCount
- freezeCount
- packetsLost

If any of these parameters leaps more than 10 points above, the channels is considered to be inappropriate to play a current video quality, and player will try to switch to a lower available quality.

Automatic quality switching parameters are set when calling `initRemoteDisplay()` function:

[code](#)

```
// Create remote display item to show remote streams
const displayOptions = {
  quality: true,
  autoAbr: true
};
const abrOptions = {
  thresholds: [
    {parameter: "nackCount", maxLeap: 10},
    {parameter: "freezeCount", maxLeap: 10},
    {parameter: "packetsLost", maxLeap: 10}
  ],
  abrKeepOnGoodQuality: ABR_KEEP_ON_QUALITY,
  abrTryForUpperQuality: ABR_TRY_UPPER_QUALITY,
  interval: ABR_QUALITY_CHECK_PERIOD
};
const display = initRemoteDisplay(
  state.room,
  document.getElementById("remoteVideo"),
  displayOptions, abrOptions,
  createDefaultMeetingController,
  createDefaultMeetingModel,
  createDefaultMeetingView,
  oneToOneParticipantFactory(remoteTrackProvider(state.room))
);
state.setDisplay(display);
// Start WebRTC negotiation
await state.room.join(state.pc, null, null, 1);
```

Where:

- `abrKeepOnGoodQuality` - interval in milliseconds to play a current video quality if there are no WebRTC statistics data leaps
- `abrTryForUpperQuality` - after this interval in milliseconds player will try to switch to a higher available video quality if there are no WebRTC statistics data leaps
- `interval` - WebRTC statistics data collection interval in milliseconds

If any quality is manually chosen, it will be playing even if WebRTC statistics values are bad.